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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,999	05/04/2001	Guy B. Irving	067856.0212	8976

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EXAMINER

MASINICK, MICHAEL D

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/848,999

Applicant(s)

IRVING ET AL

Examiner

Michael D Masinick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-13, 20-23 and 34-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-13, 20-23 and 34-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Applicants arguments and amendments have been considered and are found to be non-persuasive. The use of fan control cards and fan speed control responsive to temperature is well known in the art and the prior art previously used still reads upon the claims as amended. Previous rejections are withdrawn and new rejections are found below.

Drawings

Formal drawings have been received in this case and previous statement that formal drawings must be filed when this case is allowed is removed.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7, 22, and 34 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Specifically, the term “second request” is used twice in each claim regarding two separate requests made at different times to different pieces of the equipment.
4. Claims are further treated as if they said simply “a request”.

Claim Rejections - 35 USC § 102

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5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 7, 8, 11, 22, 23, 34, and 35 are rejected under 35 U.S.C. 102(b) as being unpatentable over U.S. Patent No. 6,037,732 to Alfano et al.

2. Alfano shows a method for controlling a plurality of server chassis cooling fans comprising: transmitting first and second requests to a first and second server processing cards, respectively, to read first and second operating temperatures, respectively, measured at first and second temperature sensors, respectively; the first and second temperature sensors being coupled with the first and second server processing cards, respectively; receiving the first and second operating temperatures at a central processing unit; comparing the first and second operating temperatures with a first and second predetermined maximum operating temperatures, respectively; transmitting a request to a plurality of server chassis cooling fans to increase the speed of the server chassis cooling fans if the operating temperature is greater than or equal to the a predetermined maximum operating temperature (Col 1, lines 37-54) ; and wherein the first and second server processing cards and the plurality of server chassis cooling fans are disposed at least partially within a server chassis.

3. Alfano clearly shows the concept of fan server cards controlling fan systems, and in column 8, lines 60-66, clearly shows the ability to use more than one fan card, fan controller, and multiple fans as the user designing the system would see fit.

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4. Applicants previous argument that Alfano and other prior art made of record does not show the controlling of ALL fans when one or more of the predetermined thresholds is met is moot because claims state only “a plurality” of fans, which Alfano shows in column 8, lins 60-66.

5. Examiner notes that all computer fans and fan control system are well known to be placed inside the casing of the computer or server system. While Alfano does not specifically mention the placement of the fans inside the server chassis, this is an inherent concept that is well known in the art.

6. Referring to claim 8, the same rejections apply as it is well known in the art the be able to add as many server processing cards as required and claim 8 brings in no new material other than number of cards and fans.

7. Referring to claim 11, 23, and 35, Alfano shows receiving, at the controller, the operating temperature from a sensor chip (“Temperature sensing circuit”, column 2, line 38).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 9, 10, 12, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,037,732 to Alfano et al as shown above and further in view of U.S. Patent No. 6,470,289 to Peters.

10. Referring to claim 9 and 37, Peters shows where at least two of the first, second and third predetermined maximum operating temperatures are equal. Examiner notes that this is a user decision, and while not mentioned specifically in Peters, these ranges are individually set and could obviously be set to equal values.

11. Referring to claim 10, Peters shows wherein the first request is transmitted over a PCI bus (Col 7, lines 27-30).

12. Referring to claim 12, Peters shows wherein the operating temperature is received at the controller over an I2C bus (Col 10, lines 61-63).

13. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over by U.S. Patent No. 6,037,732 to Alfano et al as shown above and further in view of U.S. Patent No. 6,065,081 to Stancil et al.

14. Alfano as shown above does not show where the second request comprises a GPIO signal.

15. The use of General Purpose Input/Output signals is well known in the art for their ability to be quickly analyzed and used. Stancil et al shows the use of GPIO signals over a PCI bus for the purpose of passing password data over the bus.

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It would have been obvious to one of ordinary skill in the art to use the GPIO signals of Stancil to move the PCI bus signals of Peters in view of Alfano because they are quickly analyzed and would be well suited for closed loop control.

16. Claims 20 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No 6,037,732 to Alfano et al.

17. With respect to these claims, all aspects have been shown with relation to claims 7, 22, and 34 above with the exception that “each of the plurality of server chassis cooling fans is operable to increase speeds of rotation in response to a signal from any of the server processing cards indicating an operating temperature greater than or equal to a predetermined maximum operating temperature”.

18. It is respectfully submitted that when creating a cooling system for use in a server room or directly attached to the server chassis itself, the skilled artisan would have found it an obvious modification to trigger all available fans to speed up upon receipt of a message from any of the temperature sensors or fan control cards with the motivation of creating a cooler environment.

19. Claims 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No 6,037,732 to Alfano et al as shown above and further in view of U.S. Patent No 6,101,459 to Tavallaei et al.

20. Alfano as shown above does not show where the plurality of server processing cards outnumber the plurality of cooling fans.

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21. Tavallaei shows a system of fan based cooling and control where a fan control card is used in a PCI slot containing 4 fan output modes (Figure 1). This is done for purposes of expansion and would allow the users to simply add fans at a later point should they become needed.

22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the expansion capability of Tavallaei in the fan cooling system of Alfano because the ability to expand without changing hardware in the future is important to the cost structure of a cooling system.

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael D Masinick whose telephone number is (703) 305-7738.

The examiner can normally be reached on Mon-Fri, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (703) 308-0538. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7239 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

mdm
July 2, 2003

A handwritten signature in black ink, appearing to read 'L. Picard', with a stylized flourish at the end.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100